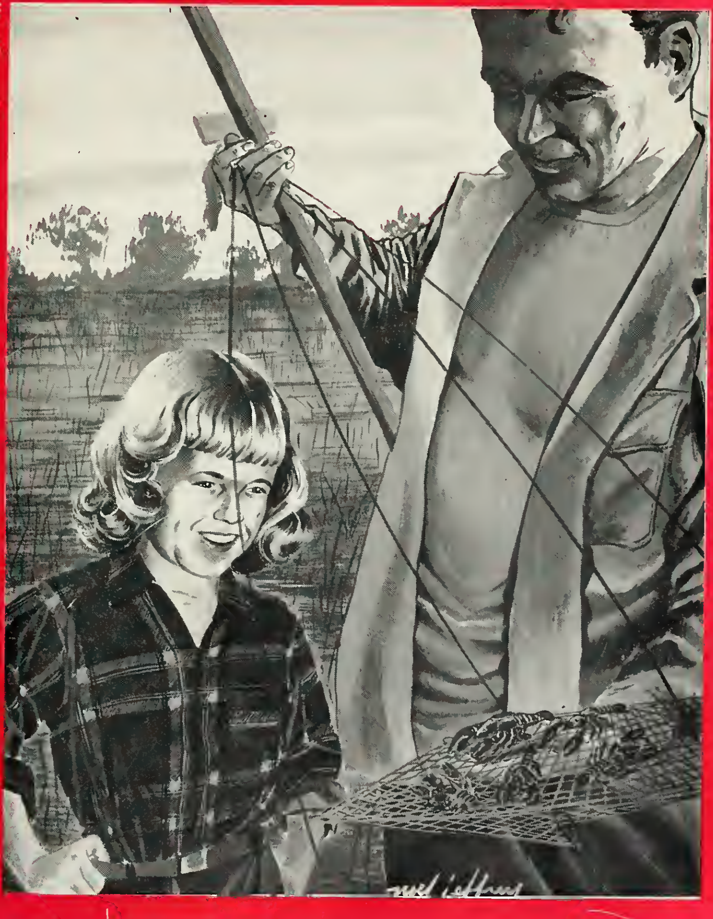
LOUISIANA Conservationist

MARCH 1953



Louisiana

CONSERVATIONIST

ROBERT F. KENNON
Governor of Louisiana

L. D. YOUNG, Jr.
Director

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Conservation Pledge

I GIVE MY PLEDGE
AS AN AMERICAN
TO SAVE AND FAITHFULLY TO
DEFEND FROM WASTE
THE NATURAL RESOURCES OF
MY COUNTRY — ITS SOIL
AND MINERALS, ITS
FORESTS, WATERS,
AND WILDLIFE

DEPARTMENT OF WILD LIFE AND FISHERIES
DIVISION OF EDUCATION & PUBLICITY

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COVER

Artist Jeffrey has captured a scene which will be repeated daily in Louisiana for the next few weeks. Bisque in the raw.

Message from the Director...

L. D. YOUNG, JR.
Director
Louisiana
Wild Life and Fisheries Commission

That the eyes of all North America are definitely focused on Louisiana as the one state in the United States with the greatest potential for wildlife abundance, was clearly demonstrated at the recent North American Wildlife Conference in Washington, D. C. With the top conservationists of the New World in attendance—outstanding fish and game management men of all the states, the U. S. Fish and Wildlife Service, and the most prominent outdoor writers of the nation—the one topic most generally discussed was the recent reorganization of the administration of Louisiana's wildlife resources.

By the time next year's conference convenes the Louisiana Wildlife and Fisheries Commission is determined there will be little left for conjecture with regard to our plans to return this state to its one-time fish and game abundance. We will leave no stone unturned to make Louisiana in fact the outstanding state in natural wildlife resources.

By merely ordering or wishing this to be so will not make it so. It will take serious unification of ideas, hard work and the concentration of effort of everyone. It will necessitate the elimination of factional strife and establishment of complete harmony in cooperative effort. And it will also need an understanding of the impossibility of recreating this state overnight into a community where the fields, the woods, the marshes and swamplands are massed with game ready for harvesting.

There are many individuals in this state who, for years, have given generously of their time and money in their desire for better management of our wildlife resources. There are many clubs that were originated for the sole purpose of conservation. These clubs, with few exceptions, have joined in an affiliation known as the Louisiana Wildlife Federation. The work of this federation is now widely known throughout the state, and since the recent North American Wildlife Conference, has gained nationwide distinction as the group that had done the most outstanding work during the past year on behalf of wildlife conservation. Our Louisiana Wildlife Federation was awarded this honor for its successful termination of its fight through the years for a commission form of administration to replace the single commissioner.

With the continued support of this Federation and all others in favor of protecting our fish, fur and game, Louisiana can become in reality the most outstanding in its abundance of wildlife resources.

ALL ABOUT CRAWFISH

By

Washburn—Viosca—Penn

—Photos by Blanchard and Gresham

Mudbugging

Louisiana's lowly "mudbug" (crayfish to the intelligentsia, and crawfish to the rank and file) has for more than 200 years been one of the succulent delicacies of Creole cuisine, an object of awe and speculation by the tourist, but a common food for the table, and a delight on a picnic in the greater part of the state during the late winter and spring months.

"Crawfishing" is something that can be and generally is enjoyed as an outdoor recreation by young and old, male and female, rich and poor; and a "crawfish boil," outdoor or indoors, has no peer in Louisiana congeniality.

Louisiana, of course, has no complete monopoly on crawfish eating, but nowhere else in the world are crawfish eaten in the amount they are devoured in the southern part of the state, and, although they may now be considered a seasonal delicacy, sufficiently expensive to be included on the menus of our finest food emporiums, they have never lost their popularity with the general populace.

Like the crab, the shrimp, oysters and fish, the Louisiana crawfish was a necessary food for the earliest settlers, and its rich, highly seasoned potency was also an invention of necessity. Like the gumbos (shrimp, crab, oyster and chicken) the crawfish bisque came into being with its rich, spicy flavor, because of the condiments the Creole housewife was compelled to use. Bay leaf, thyme, onions and garlic were ready to hand and free for the picking. Consequently the cooks of early Louisiana quickly learned to blend them with the available shellfish, and the dishes that have become world famous came into being, not as a dish to tempt the jaded appetite of a gourmet, but simply as a food for the table that all could afford.

The simplest way of preparation was to boil the "mudbug." Dried bay leaf, thyme, peppers, celery, onions, (and in later years, lemons) went into the seasoning for the boil.

It never has been much of a trick to harvest enough crawfish for a picnic, a party, or for merely a family repast, and until just recently the price of a "sack of crawfish" was well within the means of any but the most indigent. Today, however, the "mudbug" has climbed to a commercial status on a par with the finest steaks. In the early 1930s you could buy all the crawfish you wanted for approximately four cents a pound. Today they cost you 35 cents per pound and often more. When beer came back to America with the repeal of the Volstead law in 1933, virtually every seafood cafe offered a platter of crawfish "for free" with your stein or bottle of beer, when the "mudbugs" were in season. Today you'll pay at least fifty cents per portion for crawfish, and pay for your beer, too. And you won't get much more than a half-pound of "bugs" for your half-dollar.

But all this crawfish affluence has had no effect on the picnic fun of an outdoor "boil," or the party pleasure of getting your gang together for a crawfish spread in your garage, your basement, or your own back yard. And there has been no change either in the taste of the boiled "bug" or the genuine crawfish bisque. Nor has there been any change in the methods of capture of these succulent crustaceans.

Children still catch them along the banks of ditches, bayous and swampy places by tieing a piece of meat on the end of a string and pulling them out one, two or three at a time, as they cling to the bait. It is amazing how quickly a couple of youngsters can capture a bucketful by this method, and they've been doing it that way for at least 200 years.

Another method, no newer than the bait on a string idea, is the small crawfish net, 12 to 14 inches square with wire half-loops extending up a foot or more above the net and forming a cross at the top. A piece of "melt" (beef pancreas) is tied in the center of the net and the net is placed in shallow water in the swamp. Usually 12 to 15 nets are put out, 25 to 35 feet apart, and then after a wait of fifteen or twenty minutes, you use a light pole to raise each net. If there are crawfish in that swamp you'll have four or five to a dozen or more in each net. This is the type of crawfishing usually followed by picnickers, or men and women out for an outing and the hope they'll be able to gather a sack of crawfish for a "boil" in the outdoors, or at home.

In the rice fields of southwest Louisiana a short net or seine is used with two or three men dragging it through the marshy fields, when the crawfish are up, meaning they're out of the ground. These seines, about ten feet long, are usually stretched across the canals in the rice fields, dragged 10 to 20 feet at a time and then lifted. The catch is usually a half-gallon or more to the drag.

And there is still another way, although it is employed mostly by those who are now commercializing the crawfish, and

taking them from the deeper waters around Pierre Part, back of Napoleonville, where heavily timbered swamp land and deep bayous prevail. The trap used in this area is a modification of the standard minnow trap, made of one-inch poultry netting. These traps are set in deep water and work best where there is a current with the trap opening downstream. The crawfish taken in these are much larger than the swamp species and bring a premium price in the city markets.

But like the pudding, the proof is always in the eating, and as soon as you have acquired the trick of eating crawfish, you are always ready for another invitation to a "mudbug" party. To the uninitiated, peeling and eating crawfish is more or less a messy struggle, and many the man or woman who deny themselves an epicurean treat because they don't know how to get the meat from the shell.

The native south Louisianian is an artist at this simple procedure. The true mark of the crawfish eater is when he separates the head from the body, sticks the broken end of the head in his mouth and gives a mighty crush and suck at the same time, thereby extracting the fat that is to be found in the head, along with the concentrate of seasoning, that to many is the tastiest bit of the crawfish. Then by squeezing with thumb and finger at the base of the tail the meat pops out and into your mouth almost in the same operation. Watching the expert crawfish eaters pile up the emptied heads and shells is an education in itself, and when you begin to acquire their expertness, you have only begun to enjoy crawfish.

So much for the capturing and the eating of crawfish. Now for the cooking!

For boiling crawfish use a huge iron pot, kettle, or even a washtub. Put in two or three gallons of water according to the amount of crawfish you wish to boil; cut several onions in quarters, add two or three lemons cut in half, several stalks of celery broken up, and then add bay leaf, thyme, garlic, peppers ground fine along with cayenne pepper, a dozen cloves, and salt enough to season as desired. Let all come to a boil, then dump in the crawfish, after they have been thoroughly washed in fresh water. Let boil until crawfish have turned a deep red, then cool and serve on platters, or merely pile on a table covered with paper, so that when the "mudbugs" have been eaten it is a simple matter to clean up, by merely wrapping the shells in the paper and disposing of all the debris at once.

That's the easy way, and if you like boiled crawfish, its the only way. If you prefer a bisque, the procedure is more exacting. Here's the approved recipe for that:

CRAWFISH BISQUE

8 doz. fine, large crawfish
3 onions, 1 carrot,
1 bunch of celery
2 sprigs of thyme
2 bay leaves
Salt and pepper to taste
4 sprigs of parsley
6 cloves
2 blades of mace
1 clove of garlic
2 tablespoonfuls of butter
2 quarts of oyster liquor
A dash of cayenne
1 seedless cayenne pod

Take about eight dozen fine, large crawfish and wash thoroughly, being careful to cleanse off every particle of mud or sand. Set to boil in about a gallon of water. When boiled take the crawfish out of the water; save the water. Pick out two dozen of the largest crawfish, remove the inside of the tails and save the heads, cleansing them of every particle of meat. Set this meat to one side with the shells of the heads. Pick the meat from the rest of the crawfish, saving all the shells. Take one large onion, a carrot, a bunch of celery, a sprig of thyme, one bay leaf, three sprigs of parsley, six cloves and two blades of mace, one clove of garlic, chop all very fine and put into the pot of water in which the crawfish were boiled. Add all the picked meat, except the reserved tails, all the shells of the bodies and heads, except the reserved heads. Add one cup of rice and let it all boil till the mixture becomes thick and mushy. When it is well cooked, take it off the fire and mash the shells thoroughly and the meat also, and strain all through a sieve. Take about a tablespoonful of butter and two quarts of oyster liquor and add this to the soup, seasoning to taste with cayenne, salt, and black pepper. Set to boil slowly.

In the meantime, take the reserved crawfish meat and make a stuffing as follows for the reserve heads; chop an onion very fine and let it brown in a tablespoonful of butter. Squeeze thoroughly a cup of bread wet with water. When well squeezed, mix with a little milk, sufficient to make paste, season to taste and mix with the well seasoned crawfish meat. Chop another onion and put in melted butter and add the crawfish stuffing, letting all fry about 10 minutes, adding, in the meantime, a finely chopped sprig each of thyme and parsley, and a bay leaf, and mixing thoroughly. Take off the fire and stuff the reserved heads of crawfish. Put on every stuffed head a dot of butter and set in the oven and bake 10 minutes. Place the stuffed heads in the tureen and pour the soup over. Serve hot with croutons of buttered toast passing the latter in a separate dish.

Crawfishing is usually a family affair.

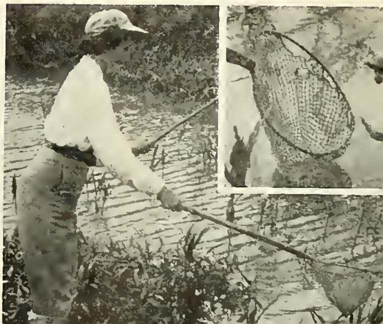
All this, however, is by no means the complete story of the crawfish as a Louisiana delicacy. It was only natural that the earliest settlers of the Louisiana territory experiment with every potential food possibility. And it was no more than natural that they quickly found the Louisiana crawfish as potable as the shrimp, oyster, crab and fishes so abundant and so easily harvested. The amazing thing is that without any restriction ever being placed on the harvesting of crawfish, no attempt ever having been made to protect or conserve them, they have continuously remained in sufficient numbers to satisfy the demand for them. Hundreds of thousands of pounds of crawfish are consumed in Louisiana each year, a terriffc increase over the earlier consumption figures, yet each year, when the crawfish season begins there appears to be no shortage, despite the many hazards they must conquer each year.

There is no limit placed on the quantity anyone may take. There is no established lawful season. There is no stipulation as to the method used for capture of the crustacean. There are no preserves or refuges for these lowly, yet desirable "mudbugs," yet each year they're back on our tables, in our picnic pots, and on the menus of our finest restaurants.

Crawfish production records can only be estimated, since there is no tax or other revenues derived from them.

The United States production for 1888 was reported as 23,000 pounds, with a value of $2,140 with more than a third of this quantity being ascribed to New Orleans.

The simplest type of crawfishing—and the favorite with the kids—is the "piece of meat on a string" variety.



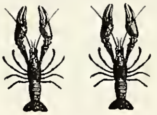
A United States census report for 1908 gave the Louisiana production as 88,000 pounds with a value of $3,600.

In 1950 the revenue division of the Department of Wild Life and Fisheries gave an estimated figure on crawfish production for that year at 162,426 pounds, and explained that that figure represented probably no more than 10 percent of the total production for the state. That would, of course, mean a total production in the neighborhood of 1,624,000 pounds.

About the only definite figures obtainable on the annual crawfish harvest, are those which come from the wholesalers, retailers and producers for the processing plants that have come into being during the last decade. These processors now convert the raw "mudbugs" into crayfish bisque, crayfish Creole and canned crayfish, which are now being distributed throughout the United States. It is estimated that Louisiana produces at least 80 percent of the crawfish consumed throughout the United States.

And it is also estimated that all but a small amount of this total is consumed in Louisiana alone. That means a lot of boiling, bisque making and picnicking, and it means, too, a lot of happy Louisianians.

—MEL WASHBURN
Education and Publicity Division



Life History and Habits

A score or more crawfish species are native to Louisiana. All can be considered edible, but only two are gathered in sufficient quantities to be marketed as human food. These two are known to Louisianians as the red, or swamp crawfish, *Procambarus clarkii*; and the white, or river crawfish, *Procambarus blandingii acutus*. A number of species are too small for human consumption and several others either too limited in quantity or distribution, or live in tunnels from which they are not easily taken. Large, medium, or small, however, all crawfish are considered excellent baits for taking various species of freshwater fishes.

The two marketable crawfishes are native to the river systems of the state of Louisiana. Their greatest size and abundance is developed in river valley swamps (such as the Atchafalaya Floodway area) which are irrigated annually by spring floods and go dry during late summer. The man-made levees along our major streams and the various types of canals traversing the lowlands have greatly reduced the habitats of both species.

The larger river crawfish cannot survive long in swamps which are not irrigated annually by some river, and even the swamp crawfish becomes stunted when the oxygen supply is reduced by stagnation and the mineral constitutents required in their metabolism are not renewed by periodic floods. On the other hand, both species become abundant in irrigated rice fields which are properly fertilized to produce maximum yields of rice.

The following observations are confined to the red swamp crawfish, although, in a general way, the life history of the river crawfish is similar in most respects.

They're almost never too young to take mudbugging.

The normal mating season of the red swamp crawfish begins in April and perhaps reaches its climax during the month of May. Egg laying follows about two months later, beginning in June, probably reaching its climax in July, and continuing through September. Generally speaking, the life history of this species is governed closely by normal seasonal changes, but variations in both mating and laying seasons may result from unusual conditions.

While laying her eggs, the female crawfish forms her tail into a cup-like receptacle. Into this she deposits around two hundred black beady eggs. These become attached securely by a glutinous substance to the little hair-like appendages on the under side. The closely packed egg-mass resembles a blackberry, hence egg-carrying females are said to be "in berry." Embryonic development takes place within the egg and while they are thus attached.

Normally, while egg-development is in progress, the shallower portions of the swamps go dry, and both sexes "dig in" for the summer. Tunnels leading from the chimneys and holes at the surface of the mud go down to the water table and below. I have found swamp crawfish in tunnels as much as three feet below the surface of the mud, and the "land crawfish," *Cambarus diogenes*, as much as eight feet in the ground.

The water in these underground tunnels and burrows is clear and cool throughout the summer, indicating a metabolism adjusted to a cool climate. While in the tunnels, the crawfish and their eggs are protected from most natural enemies. The chief exception is the elongated salamander known as the congo eel, which also lives in these tunnels and feeds largely on crawfish. Fortunately for the crawfish, the congo eel also has a predator, the so-called "horn snake." This much-maligned snake is really a harmless creature which feeds almost exclusively on congo eels and keeps their population within bounds.

About two weeks after the crawfish eggs are laid, they begin to show signs of hatching, the hatching time varying somewhat with temperature. Females with hatching eggs are found after the middle of July and in increasing numbers through August, with the climax in September. There is a decrease during October, and by early November most of the eggs will have hatched.

Early young do not resemble their parents very closely. Unlike the larvae of marine crabs and shrimps which swim freely in the water, the crawfish young cling to the abdomen of the mother by means of their claws. When the egg yolk is completely absorbed, their appearance changes and they assume the true crawfish shape so familiar to most Louisianians. They still remain with the mother in this stage, even though they must now obtain their nutrient by feeding on microscopic plant and animal life.

The majority of eggs will have hatched by the time of the autumnal equinox. Heavy rains and high waters, which usually occur about this time, flush the adults from their underground burrows and they crawl overland, usually at night, in a sort of limited migration. Sometimes they may be seen crossing highways traversing the swamps in armies of tens of thousands and may be killed by traffic in such quantities that the roads will become slippery from their dead bodies. Birds and animals attracted to the feast will also be killed in large numbers. These migrating adult crawfish of early autumn are usually poor in flesh and not considered as choice an item for human consumption as the spring crop which will be discussed later.

Migrating females carry their eggs or young with them in their overland travels. Unusually high waters may scatter them far and wide, but after the waters recede, the females seek suitable pools and the shallow edges of swamps which were dry during the summer and therefore virtually free from natural enemies. If a mother crawfish is disturbed at this time, her offspring will wiggle off for self-preservation and take a chance on survival alone. If the danger passes, the mother will crawl around the area over which her young have dispersed, and they will return and cling again to her swimmerets for protection. After about two to four weeks, depending upon prevailing temperatures, the

2

1. Preparing the nets for shallow water crawfishing. This is probably the most widespread method used to take crawfish.

2. The bait is tied in the center of the net.

3. The net itself—ready to go.

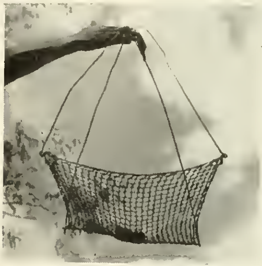
4. Setting out the nets.

5. A pole is used to lift the nets in order not to alarm any crawfish on the bait.

6. Coming out—quickly, now.

7. A nice one for the pot.

8. When they're "running", it isn't hard to fill a hamper.



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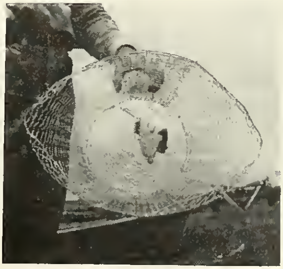
9. Chopping up a garfish to be used for bait in the deepwater crawfish traps.

10. The ultimate in bait—garfish eggs. Here they are tied in cloth bags to keep them in the trap.

11. The deep water trap, used largely by the commercial crawfishermen. Here you see the back end open (for baiting and removing crawfish). The opposite end has a funnel opening.

12. The load of traps, piled high, is tied down for the trip out to deep water.

10



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young lose interest in their mother's "apron strings" and scatter about seeking food on their own.

After the breeding season and throughout the fall, the mortality rate of the adults is very high. When driven out of their burrows by high water, weakened males are seen dying in large numbers, and relatively few survive the winter months. The females seem to possess greater vitality, necessary for the protection of the young. In addition to this natural mortality, a heavy toll is taken by ibises, herons, fish crows, raccoons, bullfrogs, turtles, congo eels, fishes and other enemies. By late fall, the adult crawfish will have become numerically scarce, and the abundant young are hardly noticeable because of their small size.

The growth of the crawfish, similar to that of the more familiar crab, takes place by shedding the hard outer shell. A soft-shelled crawfish, upon emergence, immediately fills the cavities of its body with water and swells rapidly in size. During this period, it cannot feed and is more vulnerable to attacks by natural enemies, including its own species. After about forty-eight hours, the shell of the crawfish will have hardened sufficiently and it can feed once more. When food is abundant, much fat is stored in the body spaces and a new soft shell forms under the outer one. When very fat, the crawfish becomes a "buster" and is soon ready to shed once more.

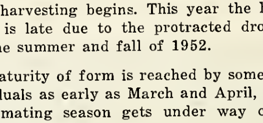
As the metabolism of the crawfish is adjusted to cool weather, considerable growth of the young occurs during the fall and winter months. Water temperatures, of course, vary less than air temperatures, and crawfish are not subject to the extremes experienced by land animals. There is no necessity for true hibernation in the deep South, although they may become dormant or semi-dormant during severe cold spells. During autumn, the swamp trees shed their leaves, permitting sunshine to warm the water periodically, and cyclic warm winds occurs throughout the southern winter. Winter growth of the young crawfish is more or less intermittent, but some advanced individuals may reach a size of three inches before the end of the year.

The crawfish is omnivorous, feeding on almost anything—living or dead, animal or vegetable. Insects and crustaceans are devoured, covering and all, and the cast shells of other crawfish are utilized as needed supplies of calcareous matter. The crawfish is a past master in the art of cannibalism, and many an individual has to sacrifice one or more appendages to save itself from a close relative. Lost limbs grow back in a few weeks, however, and the injured crawfish is none the worse for wear.

It is not surprising that growth of this little crustacean, adjusted to cool weather and feeding on anything organic, is very rapid. During a normal winter, quantities reach an edible size of three inches or more by February, sometimes by January, and harvesting begins. This year the harvest is late due to the protracted drouth in the summer and fall of 1952.

Maturity of form is reached by some individuals as early as March and April, and the mating season gets under way once more. The shell of these adult crawfish becomes much thicker and harder than that of the young stages, and they are not as easily prepared for the table. Besides, the meat is tougher and the fat has been resorbed coincident with the sexual development. By July practically all individuals in the population will have reached maturity, so at this season they are no longer considered the choice, delectable morsels which were so eagerly sought after during the spring months. As the swamps dry up in early summer, the adult crawfish again "dig in" and the eternal cycle is repeated.

—PERCY VIOSCA, JR.
Commercial Seafood Division



Classification

Crawdads, mudbugs, crayfishes or écrevisses—whatever you prefer to call them, these smaller relatives of lobsters and crabs are found nearly everywhere in Louisiana. Hardly a square mile of fresh water or land in the state is not inhabited by some of them, although they are usually more abundant in water than on land. Of all the local and popular names by which they are called throughout the nation, two are generally accepted and there have been heated arguments as to which is **the** correct one: **crawfish** or **crayfish.** According to the dictionary either is correct, the one used being purely a matter of personal preference. Even among professional zoologists both have been used indiscriminately. Personally I prefer **crawfish** since it is completely American having been first used in 1817 by Thomas Say, the first American zoologist to study American crawfishes. Its counterpart, **crayfish,** was coined by an English scientist, Thomas Huxley, about fifty years after Thomas Say's **crawfish** had been put into use.

Although American crawfishes were not studied scientifically until early in the nineteenth century, the species native to Louisiana were well known in prehistoric times to the Indian tribes who lived along our coast. In fact, the familiar red crawfish was so admired for its bravery that it was adopted as a battle symbol by the fierce Houmas Indians who lived in what is now Terrebonne parish. And, it was not long after New Orleans was founded that French gourmets discovered this same crawfish to be a delectable delicacy for the table. Ever since that time New Orleanians have sung the praises of many delicious crawfish dishes. Bisque and plain boiled crawfishes are the top favorites.

In the broad scheme of things crawfish are members of the largest subdivision of the animal kingdom, the great Phylum **Arthropoda.** Arthropods are distinguished from all other animals by the possession of several noteworthy features, namely a hard but flexible external skeleton, or shell, a segmented body, and paired, jointed appendages to which the name Arthropoda refers (**arthro** = joint + **poda** = foot). The **Crustacea** may be roughly distinguished as only those arthropods which breathe by means of gills and which have two pairs of antennae, or "feelers".

Additional classification into smaller groupings (i.e., the subfamilies, genera and species) is based on the structure of less obvious parts of the body. The crawfishes of eastern North America are distinguished from each other mainly by the detailed structures of the sexual appendages of the mature breeding-form males and the sperm receptacles of the females. Other features such as the shapes of parts of the carapace and the claws are useful only in conjunction with a knowledges of the reproductive apparatus of both sexes. Curiously enough, color and size are of even less value since these features are far too variable among most species to be generally acceptable criteria. A few species are very distinctively and brilliantly colored with reds, oranges and blues, but colors often change with age and many different species display strikingly similar color patterns. Crawfish show also a wide range of sizes. The smallest in Louisiana reach maturity at about an inch in length and never grow much larger, while the largest grow to about seven inches, exclusive of the claws.

Of the two hundred or so different kinds of crawfishes which occur all over North America, at least twenty-two are found in Louisiana (three of these have not yet been given scientific names). Their habits are so varied that they can live in almost any situation where moisture is assured. Out-side Louisiana there are species which live in the deepest caves of the land, and there is even one species which lives in the brackish marshes along the coasts of Maryland and Virginia.

The best known, and most popular, of our crawfishes is the Louisiana red crawfish, **Procambarus clarkii** (Girard). Although most abundant in the coastal freshwater marshes and swamps, this species occurs throughout the state. However, concerning its habitat, it must be listed as ubiquitous, for small numbers of it have been taken from almost every type of fresh water in Louisiana, including such different situations as rapid-flowing, sand-bottomed creeks, muddy bayous, deep lakes and shallow ponds.

The Southern white, or river crawfish, **Procambarus blandingii acutus** (Girard), also fits best in the ubiquitous category. This species is also statewide in distribution, but differs from the red crawfish in being most abundantly found in the deeper rivers and creeks. Smaller numbers have been taken from ponds, lakes, ditches and swamps, and occasionally a market catch of crawfishes will include more-or-less equal numbers of both of these common species.

Our other crawfishes are more restricted in distribution, geographically as well as by their habits and requirements. Accordingly, discussions of these may be grouped by the habitats which they enjoy.

Nine species occur almost exclusively in the creeks and rivers of the state. The most widespread of these is the creole crawfish, **Orconectes palmeri creolanus** (Creaser), which occurs most abundantly in shallow, unshaded stretches of clear, sand-bottomed creeks. This strikingly colored species with red- and white-tipped, blue-mottled claws is statewide in distribution, excepting only the southwestern section.

A small, brilliantly-colored species, **Orconectes hobbsi** Penn, which does not grow to more than two inches in length, and five species which reach a length of three to four inches occur in relatively small numbers in similar small, clear, sand-bottomed and well-shaded creeks in limited areas of the state. **Orconectes hobbsi** is known only from the streams draining into the north side of Lake Pontchartrain, and **Orconectes hathawayi** Penn is a rare form known only from Rapides parish. The other four replace each other in a west to east sequence: **Procambarus dupratzi** Penn in streams tributary to the Sabine river; **Procambarus natchitochae** Penn in the headwaters of streams tributary to the upper Red river and in streams draining into the Gulf of Mexico west of the Atchafalaya river; **Procambarus vioscai** Penn in streams tributary to the lower Red river and in streams draining into the north side of Lake Pontchartrain; and, **Procambarus penni** Hobbs only in tributaries of the Pearl river.

Two closely related larger species occupy slower flowing muddy rivers and streams. **Procambarus simulans** (Faxon) is a western form which reaches its eastern limit of distribution in the streams of the Sabine river drainage area. **Procambarus tulanei** Penn, its eastern counterpart, has been found only in the northern part of the state. This species is marked by heavy "beards" of long hairs on its claws and mouthparts and dwells primarily in intermittent water courses. Here it excavates large burrows in the bank in which it survives the periodic drying up of the streams.

Six species are more-or-less restricted to bodies of still water. The largest of these, **Orconectes lancifer** (Faxon), attains a length of about four inches but it is not a common species. When found it is usually in the deeper water lakes and ponds of the northern and eastern areas of the state. A few individuals have been taken in slow-flowing, muddy bayous and creeks. The name **lancifer** means "lance-bearing" and indeed the rostrum, or "snout", is produced into a long, sharply pointed spine.

Proof of the pudding.

The prairie crawfish, **Procambarus hinei** (Ortmann), is a small species, seldom over two inches in length, which is found in more-or-less temporary, shallow bodies of water in southwestern Louisiana. Shallow, muddy ponds in the open prairie apparently are ideal for this species for I have seined several thousand individuals from small ponds, that were really only large puddles, near Hackberry.

Occurring occasionally in the same ponds with the prairie crawfish is the western dwarf crawfish, **Cambarellus puer** Hobbs, which lives in small, shallow bodies of water west of the Mississippi river. Its eastern counterpart, **Cambarellus shufeldtii** (Faxon), occurs in similar habitats east of the upper Mississippi and Atchafalaya rivers. These diminutive species which never grow to over an inch-and-a-half in length are commonly mistaken for juveniles of some of the larger species, even by professional zoologists. Apparently these two species reproduce almost continuously for females "in berry (i.e., carrying eggs) may be seen in every month of the year. They occur in prodigious numbers in favorable situations throughout their respective ranges and make excellent live baits for "perch" fishing.

The mudbug crawfish, **Orconectes clypeatus** (Hay), and its close relative, **Orconectes beyeri** Penn, are also small species not over two inches in length which occur in temporary, shallow bodies of water. These small ponds apparently must dry up at least once a year for the "mudbugs" to complete their life cycle. The former occurs throughout the state north of the coastal alluvial lands, while **O. beyeri** is known only from DeSoto and Natchitoches parishes.

Two of our Louisiana crawfishes live in subterranean burrows during most of the year, leaving their homes only at night to feed on vegetation at the surface, and in the spring to carry their eggs to water. These retiring creatures live deep in the ground and "booby-trap" many a farmer's mowing machine with their familiar chimneys. Their chimneys dry into hard cylinders of clay which are a source of considerable annoyance and expense not only to farmers but also to the owners of well-mown lawns, even in the center of New Orleans.

These well-known pests are **Cambarus diogenes ludovicianus** Faxon and **Cambarus hedgpethi** Hobbs. The first occurs throughout Louisiana and often reaches a length of about five inches, while the second is found in the southern region of the state and is considerably smaller. Both may dwell together in the same field, but this is exceptional. Sometimes these burrowers are considered to be poisonous, and some persons refer to them as "deadman crawfish" because of the fallacious beliefs that their chimneys indicate the location of unmarked graves, or that they feed on human bodies buried in low places.

As pesky as these two species may be, we in Louisiana are fortunate that they do not copy the habits of one of their Mississippi cousins. There the crawdads live deep in the ground (sometimes their holes extend fifteen feet straight down), coming out on rainy nights to devour young plants of cotton, corn, oats and pasture grasses. For decades prior to the discovery of DDT, these accomplished burrowers made it a costly operation for farmers in the fertile black soil belt of Mississippi and Alabama to raise a profitable crop of cotton or corn.

While control of the burrowers is an economic necessity in some areas, including parts of Louisiana, no really satisfactory method has been worked out for our species. In Mississippi, cottonseed hulls or ground corn cobs saturated with DDT and spread near the burrows have proved highly successful, but trials with this method in Louisiana have been disappointingly fruitless. Direct, hole by hole, hand applications of various poisons (such as carbon bisulphide, chloride of lime, coal-tar creosote stock dip, etc.) are effective, but the slow method of application is too costly for large scale operations.

—GEORGE HENRY PENN
Associate Professor of Zoology.
—The End

JACKSNIPE with a MIST NET

Hi, Folks, I'm a Snipe !

—**Photos by Gresham**

Since 1939 Wilson's Snipe, *Capella gallinago delicata*, have not known the sound of gunfire legally directed toward them in these United States. Immediately on the heels of that season, which was destined to go into the books as the curtain closer for at least a decade, came a severe and prolonged cold wave. Freezing conditions existed throughout the Gulf states, where a vast majority of the country's snipe population was concentrated, for 19 days. Most authorities give credit to this freak of nature for decimating the numbers of this bird to the extent that the U. S. Fish and Wildlife Service felt it necessary to completely close the season.

Snipe are migratory, and as such come under the management of the Fish and Wildlife Service, Department of the Interior. They breed from Newfoundland and northern Manitoba south to northwest Pennsylvania, northern Illinois, and South Dakota. Aa denoted above, most of the snipe winter in the states bordering the Gulf of Mexico, but a few lag behind in the more northern states.

The word "authorities" is used above rather dubiously, since there has been relatively little work done on snipe which can be convincingly used in their management. This species is one on which it is extremely difficult to obtain sufficient quantitative data to insure statistical reliability of the observations, as the boys with the gowns say. Simply speaking, it means that you've got to see the same thing a lot of times before you can believe what you saw. How many times is something that hasn't been determined as yet. To quote from Chandler S. Robbins, who is spearheading the FWS snipe investigations, will give you some idea of the problems involved: "Any one of a great many variable factors may produce shifts in local wintering populations, and these shifts quite frequently may cause apparent changes in abundance which are much greater than any actual changes, and which bear no relation to increases or decreases in the population as a whole. Some of the factors influencing snipe distribution in mid-winter in the Gulf coast states are: 1) Water levels in the uplands as influenced by recent and accumulated precipitation and by rate of evaporation; 2) Water levels in well-drained tidal areas as influenced by position of moon, direction and velocity of wind, storms, construction of new canals, etc.; 3) Water levels in poorly drained brackish marsh as influenced by storm tides, precipitation and evaporation; 4) Amount of grazing; 5) Human disturbance, including legal and illegal shooting; 6) Rotation of crops, especially rice; 7) Changing of farm practices and crops due to labor costs, new machinery, etc.; 8) Natural edaphic changes; land becoming drier; 9) Reclamation projects; 10) Cold weather locally or to the north. Due to these many disturbing factors, and due to the fact that subsequent counts in a given area result in significant changes in the number of snipe recorded even when none of the above factors is known to have interfered, a great many sample counts are necessary to obtain a reliable index to the population of the snipe on its wintering grounds."

From their low point of 1940 jacksnipe populations have made a comeback. Just how great a comeback is difficult, or impossible, to say. Some people feel that there should be an open season this year. Many feel that shooting pressure has no appreciable effect on the overall abundance or scarcity, especially when compared with the periodic natural disasters such as the freeze mentioned above.

Snipe hunters are usually avid sportsmen, since the ratio of shells expended to pounds (or ounces) of snipe meat in the pot isn't very favorable. When flushed these fast flying marsh dwellers usually embark on a zigzag course for the first—well, until they're out of gunshot range. Almost invariably they utter their rasping cry of "scaipe, scaipe" as they make their getaway.

The Pittman-Robertson section of the Wild Life and Fisheries Commission is participating in the nationwide effort to get more information on Wilson's Snipe. This work is centered under Project 15-R, under the leadership of John D. Newsom. His assistants for this project, which also encompasses work on doves and woodcock, are J. B. Kidd and Robert Murry. Their snipe investigations are primarily directed toward obtaining information on snipe populations and movements, and toward using the accumulated data in making recommendations on the advisibility of reopening the season on snipe. The methods being used to gather this knowledge are: 1) Strip census—areas of high snipe populations are located and census strips are run at periodic intervals to determine changes in local populations; 2) Banding—Snipe are trapped and banded with nets and headlights in conjunction with woodcock banding, and Japanese mist nets are used to trap snipe in areas of high snipe concentration.

Since most snipe have already begun their trek to the breeding grounds the actual field work mentioned above is about finished until next fall. The pictures presented here were made in February when the project personnel were carrying out item number two under the methods used. The use of mist nets by individuals is strictly taboo, and it is only through prominent ornithologists and mammalogists who act as factory representatives for Japanese manufacturers that they can be obtained by state game departments. The nets used here are made of 21 denier silk, are 7′ x 28′, and weigh approximately three ounces. Dr. O. L. Austin, Jr., says that he has seen the Japanese take about 30% of the snipe population from a marsh in a single night. Regarding this, Newsom remarked that the Japanese must be considerably more adept at using mist nest than we are.

The opening paragraph of the instructions accompanying the nets from Japan reads as follows: "Net to be used for preventing the ripen grains, fruit of the honest labor and bitter sweats of agrarian people, from the pillage of noxious birds and at the same time acting them for meat satisfying your palatable taste. Instead of 'one stone killing two birds', this is 'one net protecting the harvest and catching hundreds of birds at a stroke'."

—CLAUDE GRESHAM

Metal fence poles are used to hang nets.

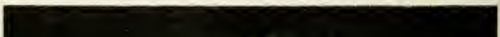
Unfolding the nets—and folding them again—is a task that requires care and time to keep them from tangling.

Typical snipe habitat.

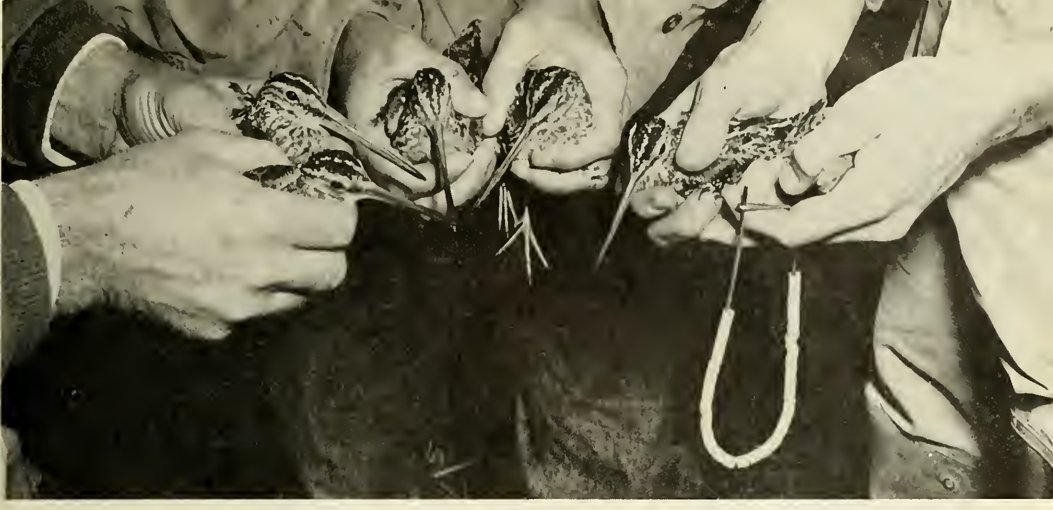
Strung end to end the nets present a rather formidable barrier to low flying birds.

The swift, erratic flight of the jacksnipe made it almost certain that few birds would escape once they hit the net.

This pert fellow hit the net so low that he sagged into the water.



This shrike, or butcher bird, also fell victim to the entangling mesh. Killdeers and blackbirds were other species which came—and stayed for a while.



Wilson's Snipe, Capella gallinago delicata. And the specific name of this fragile creature is aptly descriptive, since all 11 inches of the average specimen weighs about four ounces. Note the aluminum bands on the "safety pin" holder.

"Most humiliating" seems to be the attitude of this snipe concerning his predicament. You might say that he's all wrapped up in the situation.

Realizing that this is four layers of the net, you get some idea of their flimsiness.

John Newsom, J. B. Kidd, and Robert Murry are the three members of the dove-woodcock-snipe project. All three have a masters degree in game management from L.S.U.

Off they go, to the breeding grounds of the north—from Newfoundland to Manitoba, wearing identification bracelets which will help provide information on which to base their management.

Hair Structure and Conservation

You just bought the little woman a mink coat, you say. How do you know it isn't muskrat, or nutria, or squirrel? The techniques described below will identify your pelts, no matter how they're camouflaged.

In recent years, the hair of mammals has become to conservation work what the fingerprint is to criminology. Many studies have been conducted on the structural characteristics of hair, and within the last several years, much of this material has been correlated until hair has become of definite practical diagnostic value.

It is now possible to identify most of the North American mammals by microscopic examination of their guard hairs. In most of fur bearing mammals, the coat is composed of two different types of hair. First, the protective, or guard hairs, which are long and coarse. These guard hairs cover the short, soft under hairs. The hairs composing the under fur are virtually valueless for identification because their structures are more generalized.

The new "sheared racoon" coat of milady's is made from natural racoon pelts that have had the guard hairs removed. This is accomplished by placing the pelt in an electrical field which makes the hairs stand upright. The guard hairs are then cut even with the under fur and produce a rich, soft pelt.

The two major applications of trichological (hair structure) studies in conservation are in enforcement and in identifying hair in predator and similar studies.

Because hairs are not subjected to the action of digestive enzymes (organic substances that accelerate specific transformations of material), they can be used in stomach analyses when studying the food habits of some predators. Evidence of the kind of animal eaten by a predator can also be obtained from the fecal material of an animal. Recently, a fecal specimen of a bobcat was sent in from a game refuge and the microscopical examination of the hair from the material showed that it was from a deer.

These trichological studies can also be used when studying the food habits of carnivorous birds. It has been proved that the red-shouldered hawk's diet consists of 65% of destructive rodents, which are great predators of quail.

It is easily seen how the identification of hair is applicable to game law enforcement. A hair that is found in an illegal place or at an illegal time that can be definitely identified as that of a game animal is strong enough evidence for a conviction. For instance, if a ranger found hairs on fresh suspected game meat during a closed season, the identification of these hairs would be conclusive proof of guilt.

Hair is a unique mammalian product composed of three structural elements:

(1) An outer, thin layer, called the cuticle.

(2) Beneath the cuticle is the cortex. The pigment granules that give hair color are located in this layer.

(3) The medulla is the central core and there are several types of medulla.

All mammals possess hair—even the whale and the armadillo. However, the hairs of the whale are limited to the lips and the hairs of the armadillo are located at the posterior edges of the leathery scutes.

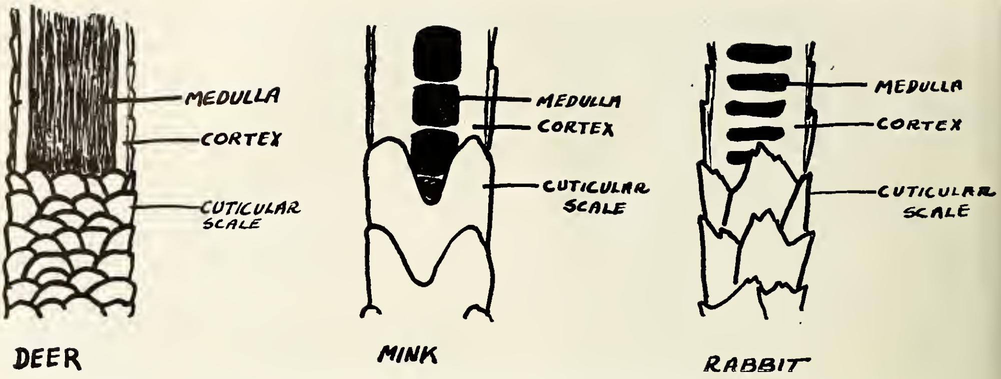
The porcupine has modified hair in the form of long, pointed quills which can be shed but not shot out, as is commonly believed.

The horns of the antelope and the rhinoceros are thought to be compressed hair.

Specialized hairs are located on the nose and eyes of meat eating animals. These hairs have a nerve fiber at their base which makes them sensitive to touch.

The hair of mammals is usually shed (molted) once or twice each year—exceptions to this are human hair and the mane of the horse, which grow continually.

The cuticle is chiefly of diagnostic value because of the shape and arrangement of the scales which compose it. Ordinarily, this particular pattern cannot well be studied directly, but must be examined through plastic impression. Various acetone soluble cellulose derivities are used. The hairs are laid across the surface of the viscid plastics and when the plastic is solidified, the hairs are withdrawn. Another method is to place a hair between two preheated films of thermoplastic, then

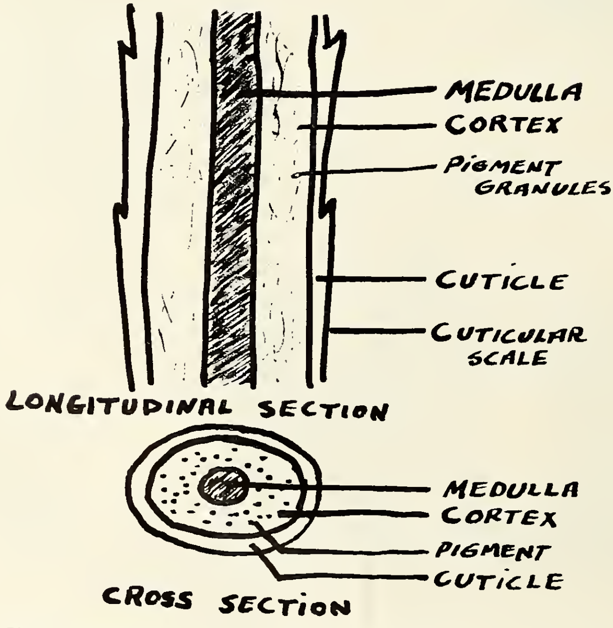


Drawings of hair from deer, mink and rabbit. The upper portion of each hair represents a longitudinal section; the lower portion represents the whole hair. Note the different types of scales and medullae.

clamp firmly together and place in laboratory oven for fifteen minutes. Still another method is to place the hairs between two preheated thin sheets of cellulose acetate. This is then subjected to the pressure of a small jeweler's press. The impression which remains reveals in microscopic detail the characteristics that are of high differential value.

The cuticular scales have various shapes and they are classified accordingly. Some of the scales are rounded, flattened, elongated or pointed. Some have smooth edges while others have teeth-like projections on the edges.

The cortex and medulla can be studied by using the hair as it is, but different techniques are also used.



Diagrammatic drawing of the longitudinal and cross section of a hair showing the principal structures.

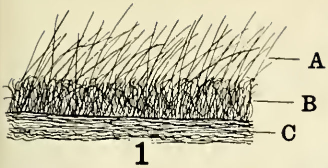
The cortex often contains variously shaped vesicles filled with pigment granules. The form and arrangement are typical. Sometimes scattered granules are present.

The medulla is constructed of dead cells which may be arranged in either a continuous mass, interrupted, fragmentary or entirely absent. The number, size and shape of the dead cells make it possible for a specific identification.

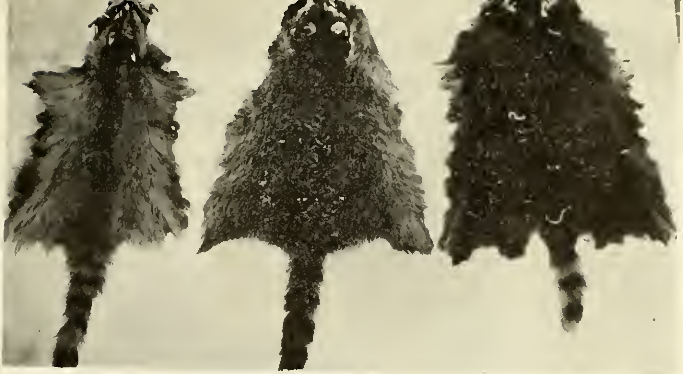
The late Dr. James Nelson Gowanloch developed a technique that is highly valuable for the microscopical examination of the cortex and medulla. The method uses balanced complementary lights. The arrangement is to place a Wratten filter #58B2 over the microscope mirror and a second filter (#25A tricolor red) between the source of reflected light and the object. The result is that the structures illuminated by the transmitted light appear green floating against a green field, while all the structures which reflect light are brilliantly illuminated in the complementary red.

Trichology is also used in criminology. There have been many murder cases solved on the strength of hair structure and identification. In other cases, the hair from fur coats have proved or disproved to be what the dealer claimed they were and what the custimers paid for. Hair identification is used in hit-and-run cases. Hair that might be found on a suspected car is compared with that of the victim.

An interesting case that was solved with the help of the identification of hairs was the case known as the "Mad Barber." This man would enter a house at night and snip women's hair while they slept. From several clues, the "Mad Barber" was located and while searching through his trailer, three distinct bunches of hair were found. This hair, together with samples of the victims' hair, was given to Dr. Gowanloch to compare. All three samples matched with three different victims' hair and, thus, another case was solved.



Relationship of protective hair to fur in a typical mammal. A. Protective (guard) hair. B. Fur (under) hair. C. Skin.



The skin on the left is that of the Yellow Furred Salt Marsh Raccoon unsheared. In he center is an unsheared Louisiana upland raccoon. The skin on the right is the sheared accoon, which means that the guard hairs have been sheared off even with the under fur.

Hair studies are also used in archeological studies and anthropological studies. Because of the small amount of hair found in a burial mound of the Marksville period in La Salle Parish, the theory that the Indians were wrapped in hides when buried was greatly strengthened.

Equipment for trichological studies is quite simple, and is part of the Commission's laboratory. It includes microscope, microscopic lamps, filters, jeweler's press and oven. The materials used are xylol (a solvent to clean the hair), microscopic slides and cover glass, Canada balsam (used to adhere the slide and cover glass) and cellulose acetate.

Although the Commission laboratory has all the material and equipment, trichological studies are limited because hairs of known individual specimens are needed to compare with hairs of the unknown specimens for a positive identification, and the file of hairs is not complete.

It is possible to identify the genus (a group of animals, such as deer) of an animal without a known hair for comparison, but in most cases the species (one specific animal, such as a white-tailed deer) of an animal cannot be determined without this comparison.

We are now in the process of collecting hair so that the hair file will include all the mammals of Louisiana.

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—HARRY E. SCHAFER, JR.
Acting Chief Biologist

Frog Season Now Closed

Frogs may not be taken during the months of APRIL and MAY. When the season reopens on June 1, they may be taken by means of grabs or other devices which do no puncture the skin or redden the meat. GIGS and FIREARMS ARE NOT LEGAL. No license required unless you sell frogs commercially. If you do you must have a commercial fishing license ($5.00). No limit on frogs.

MUSKRAT

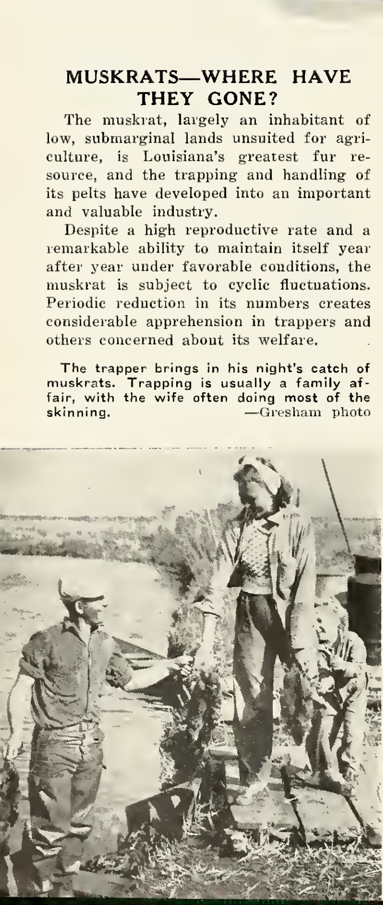
FRANK G. ASHBROOK
Fish and Wildlife Service
United States Department of the Interior

MUSKRATS—WHERE HAVE THEY GONE?

The muskrat, largely an inhabitant of low, submarginal lands unsuited for agriculture, is Louisiana's greatest fur resource, and the trapping and handling of its pelts have developed into an important and valuable industry.

Despite a high reproductive rate and a remarkable ability to maintain itself year after year under favorable conditions, the muskrat is subject to cyclic fluctuations. Periodic reduction in its numbers creates considerable apprehension in trappers and others concerned about its welfare.

The trapper brings in his night's catch of muskrats. Trapping is usually a family affair, with the wife often doing most of the skinning. —Gresham photo



During the 1945-1946 trapping season in Louisiana 8,337,411 muskrats were taken; 1946-1947 season, 8,029,764; 1947-1948 season, 5,794,317, and the annual harvest of muskrats is still on the decrease, and has reached an all time low of 1,011,202 for the season 1951-1952. The trapping season for 1952-1953 is now in progress and the indications are that the animals taken will be about as many or perhaps less than the previous season.

There is one thing certain: that during the years of normal rainfall and temperature in the Gulf Coast areas of Louisiana, muskrats are always plentiful. During these years of abundance their numbers build gradually to a peak, but not simultaneously over the country, and then abruptly decline. Such major fluctuations cannot be attributed to trapping variation. Trapping data over a period of many years show that fluctuations in muskrat populations tend to move in more or less definite 10-year cycles. More recent but incomplete records from various parts of the United States confirm the fact that distinct periods of abundance and scarcity exist, but indicate that the cycle in some instances is longer than 10 years. These cycles are not fully understood at present, but undoubtedly the two major factors responsible for such radical decline in the population are prolonged intense drought and disease.

Drought brings about catastrophic changes for the muskrat. Thousands of small ponds, lakes, and pools dry up, and food becomes scarce. As water levels sink the muskrats are forced from their homes and many die while searching for a more favorable habitat. The supply of fresh water is reduced, and in the coastal marshes salinity increases as the run-off from the water shed fails. The normally fresh or slightly saline water is replaced by undesirable salt water from the sea. This damages the aquatic plants on which the muskrats feed. Unless rain or fresh water from some other source comes to the area and changes the salty condition, the marsh produces a growth and a condition which is unfavorable to muskrats.

Considerable storms and spells of drought have invaded the coastal marsh areas of Louisiana quite frequently during the past five or ten years and many good areas which formerly produced large crops of muskrats are not producing now.

Disease, too, takes its toll, often coupled with poor water conditions. Despite its reputations as a generally healthy animal, the muskrat is subject to numerous maladies. "Lousy" muskrats are often reported by trappers, but examination usually reveals the presence of small mites instead of lice. Heavy infestations during the breeding season may result in the loss of many newborn litters. In some years epizootics, or outbreaks of disease over widespread areas, appear usually just before the trapping season.

Muskrats generally prefer fresh to slightly saline water. This is also true of plants the muskrats feed on. Prolonged droughts and high temperatures increase salinity. In the Gulf Coast region the most productive muskrat areas are the brackish water, three-square grass marshes. Storms and

NUTRIA

high tides often destroy the favorite food plants of the muskrat and exert a harmful effect on the animals themselves.

To keep the coastal marsh areas producing muskrats requires the maintenance of water levels at a depth conducive to the best growth of desirable muskrat food. How to accomplish this in competition with coastal storms and long periods of drought seems indeed an insurmountable problem. The solution would seem to depend on nature herself.

NUTRIA—WHERE'D THEY COME FROM?

Fourteen years have passed since the nutria was released in the marsh areas of Louisiana. In this State the waterways are a network of rivers, lakes, bayous, and marshes, traversed in part by the intracoastal canal, so the nutria has had no difficulty in extending its range. This fur animal is now established in all the parishes of the Gulf Coast. Nutrias have multiplied to such an extent since their release that the annual take of 436 pelts during the first trapping season (1943-44) has increased to 78,000 skins.

It is indeed unfortunate that the nutrias have been rapidly increasing, while the prices paid for their raw pelts have been decreasing. Prices paid for raw nutria pelts have been so low that the trappers have made no great effort to trap these animals. Prices of $1.50 to $2.00 average per pelt are certainly not sufficient to give the trapper a profit for his work, so there is no incentive to trap nutrias.

The low prices paid for raw nutria pelts are caused by the deplorable condition of the fur trade in this country. Manufacturers have been faced with some problems that have been impossible to solve. They have been forced to pay inflated prices for raw furs, wages, and materials, and at the same time supply the retailers and consuming public with fur garments at prices acceptable to American women. The result has been consumers have resisted the price levels of furs and have refused to buy.

Take for example the nutria-garment manufacturing business. Let us assume that the raw furs are given to the manufacturer and he pays nothing for them. The average coat made of Louisiana nutrias of the size 26 inches and up, requires from 50 to 55 skins. The average cost for processing the raw skins (plucking and dressing) is $1.85 per skin. However, 30 to 40 percent are not suitable for coats but must be used for trimmings and linings. These skins must be sold at a range of from $2.00 to $2.50 per skin. Therefore, the cost of processing must be reapportioned. This adjusted price for the processed skins that comprise a fur garment will be from $2.50 to $3.00 each.

Let us say that 55 skins are required to make a coat. The processing of these skins on the adjusted basis, $3.00 per skin, is $165.00 plus the manufacturer's cost of $385.00 gives a total of $550.00. Remember no charge has been made for raw skins. Now if you add the manufacturer's normal overhead and profit and allow for the retailer's markup, you will begin to understand why a nutria fur coat is prohibitive. As long as these conditions prevail there is little chance of an increase in the prices paid for Louisiana raw nutria furs during the 1952-53 season. The chances are that no large volume of nutria fur business will be handled in this country during this year. The present situation is not caused by the raw fur prices but is due to the processing and labor costs. Unless these costs are adjusted, there is little hope for the future. Perhaps a market for nutria furs might be developed in some other country where labor and processing costs are not prohibitive.

THE END

Fleshing a nutria pelt, shown here, is one of the time consuming steps in pelt preparation which make it necessary that they bring a fairly good price at the trapper level.
—Mark Bonner Photo

Retiring president Jerry Besson congratulates Larry Louviere, Harry Hickman, and Francis Braud, the incoming Vice-President, President, and Secretary. A. K. Northrop was re-elected Treasurer.

Federation Convention Highlights

—Photos by Hurley Campbell

Representatives from most of the 57 affiliated clubs sent instructed delegates to the annual Louisiana Wildlife Federation convention in Lafayette, March 6-7-8, to request season changes and recommendations, elect officers and weld the active federation into an even stronger, more closely knit group for the benefit of unified conservation measures on a statewide basis.

Storms clouds drifted throughout the hotel lobby, into the session and behind closed doors, but when the sun came out on the final convention day, all shook hands, said "I tried" and determinedly set out to improve hunting and fishing in Louisiana with even greater vigor.

When the differences were aired, matters discussed, plans presented and votes counted, the federation delegates went into a business routine of conservation betterment which saw the recommendation of a duck season set forward from January 10.

Taking the Saturday night, March 7 spotlight was the deer season which drew applause, scattered boos and "no nos" from active north and south Louisiana delegations. The question was settled to recommend that the season remain the same as in 1952—November 15 to December 1 and from December 15 to January 1.

Jerry Besson of Baton Rouge, presently vice-chairman of the Louisiana Wild Life and Fisheries Commission (composed of seven members), did not offer for reelection to the post which he has held for the past two years.

Harry Hickman, Shreveport sportsman, replaces President Besson as elected by the board of directors. Larry Louviere of Lafayette was named as vice-president; Francis Braud, Norco, secretary, and A. K. (Tony) Northrop of New Orleans was re-elected treasurer.

The board of directors approved a motion to establish a committee to study the feasibility for the election of officers next year from the convention floor, instead of the usual recommendation and election by the board members.

You might say Walt Cranfield looks happy at receiving the membership trophy for Pointe Coupee Parish. ↑

The Commission wildlife exhibit proved the big attraction to this youngster. ↓

Walt Day supervised registration.

Members of the board of directors unanimously elect Louviere vice-president.

Dr. Stelly, membership trophy chairman, congratulates Cranfield. Pointe Coupee had 29.1% of the parish license buyers in their club.

Things went 'round and 'round for a while at the Convention. Contributing to the discussion were, reading clockwise from the top, Lt.-Gov. Barham, Frank Coogan, E. W. Plummer, Raymond Moody, Walter Gresh, Col. V. E. Smith John Blanchard, Richard Yancey, F. E. Hernandez, and Ted O'Neal.

A committee was appointed to study the feasibility of amending, changing or rewriting the federation by-laws. Armand Rebun of Farmerville is chairman of the appointed group of four.

An invitation extended by the Shreveport delegation to hold the 1954 convention in that city was unanimously accepted at the board of directors session Friday night. This is the first time in the history of the federation that the north Louisiana city has been designated as the convention site.

Col. V. E. Smith, chief of the commission's enforcement division, added a newer, brighter note to the convention when he appeared with his 17 area ranger captains, all in uniform. This was a movement to offer the cooperation of the commission with the federation, an offer welcomed by the large delegation.

Charles W. Bosch, the executive secretary of the federation, included game, waterfowl, refuge and other experts on the convention program. Biological data, contrary to the belief of some sportsmen, was presented in an effort to convince the hunter and angler that there's more to wildlife than actual shooting and fishing . . . for meat and sport. Duck feeding habits, their migrating flights and protective measures from a scientific viewpoint were offered and appreciated by those who differed on season recommendations.

Lt. Governor C. E. (Cap) Barham of Ruston, an ardent quail hunter and dog lover, closed the convention with a luncheon address at noon Sunday by offering the cooperation of state officials in the protection and conservation of the natural resources of Louisiana.

—JOHN BLANCHARD

by

Charley Bosch
Executive Secretary
Louisiana Wildlife Federation

with the FEDERATION

YOUR HELP IS NEEDED!

If there's a Federation chapter in your community—join up now. Any officer or member will tell you about it. But—if there's no chapter near you—then

ORGANIZE A CLUB . . .

1. **Call together 20 or more sportsmen.**
2. **Select a name for your club. Elect as many officers as needed. Select a regular meeting time and place.**
3. **Adopt a constitution and by-laws. Samples can be secured from the Federation.**
4. **Secure membership cards, windshield stickers, Junior membership cards, etc. from the Federation office.**
5. **Apply for a charter in the Federation.**
6. **Adopt a program of conservation activities that will aid our wild life and fisheries, promote good sportsmanship, establish better land owner-sportsmen relationship, etc.**

WRITE THE FEDERATION OFFICE AT BOX 8993, L.S.U., Baton Rouge, La. for information and/or assistance.

TWO NEW CLUBS FORMED

The organization of two new wildlife clubs was accomplished recently in Arnaudville and Ville Platte. Both groups were formed under the guidance of the Opelousas Wildlife Association. Attending the organizational meetings were Dr. Louis E. Stelly, Earl Acker, J. L. Herbert, and E. G. Burleigh, all of Opelousas.

The newly elected officers of the Arnaudville Wildlife Association are Emile Benoit, President; M. Rabalais, Vice President; and Sidney Durio, Secretary-Treasurer.

The members of the Ville Platte Sportsmen's Club elected Woodson Harvey, President; Clifton Lahaye, Vice President; Kearnie Lafleur, Secretary. The Treasurer will be elected at the next meeting. The Ville Platte Club already has a membership exceeding 60 and the Arnaudville Association over 30 members, and this has been reached in three weeks. Welcome into the Federation—sportsmen. If we can be of help at any time, please call on us. We are at your service.

ASK AID IN PREVENTING FOREST FIRES

Sportsmen should do all they can to help in the forest fire prevention program, urged A. N. West, President of the Jackson Parish Sportsmen's Club. Forest fires not only destroy the native habitat of the game but many sometimes kill the game itself. This was proven last fall when on one of the very destructive fires, firefighters found several dead squirrels where they had fallen while attempting to run through the inferno and escape the flame, Mr. West said. The purpose of our sportsmen's club is to improve hunting and fishing and by preventing forest fires we help further our program, President West said.

BATON ROUGE TO BUILD WOOD DUCK BOXES

The Baton Rouge Sportsmen's League at a recent meeting voted to construct wood duck boxes which will be erected in the area. Hurley Campbell was named chairman of the committee for the project. Campbell informed us that he has enlisted the aid of Richard Yancey and Morton M. Smith, P.-R. waterfowl biologists with the Commission for technical assistance. Several saw mill operators in the area have been contacted and have agreed to furnish the slabs from which the boxes will be constructed. Accurate records will be kept as to the number of boxes constructed and erected, and the number of boxes used and the broods produced. Later a full report will be given. The League is looking for a generous person who will donate the keg of nails needed! Have you a keg of nails you wish to donate?

BEAUREGARD PARISH CLUB ELECTS

The members of the Beauregard Parish Wildlife Conservation Club at a recent meeting elected Ray Iles of De Ridder, President of the Club for 1953. Alva J. Cooley was elected Vice President, and J. E. Stevenson will serve as Secretary-Treasurer. L. B. Griffin, Sr., who has served so faithfully as President for years presided at the meeting. Meeting date of the Club has been changed to the second Tuesday of each month. Several fine films were shown on forestry and wildlife to the members present by Don McFatter of Louisiana Forestry Commission.

SOUTH LOUISIANA DEER HUNTERS AFFILIATE

The South Louisiana Deer Hunters' Club, an organization composed of many smaller deer hunting clubs recently affiliated with the Federation. At present the membership is 150, with plans underway to embrace all deer hunting clubs in south Louisiana. The organization is headed by Joseph Le Brun and Shelby Perrere serves as Vice President. Charley Cure is the Secretary and Marion Tucker the Treasurer. Welcome—men, may your unity be dedicated to increasing and restoring the deer population to its highest peak become a reality.

NORTH WEBSTER CLUB MEETS AND EATS

The North Webster Parish Wildlife Association met recently and after a delicious fish supper held its regular meeting. Election of officers was held. J. F. Musgrove, who have served the Association for several years as President, was re-elected by acclamation. B. Bullock will serve as Vice President and C. A. Slack was elected Secretary-Treasurer. Ranger Captain Jack Stanfield of the Louisiana Wild Life and Fisheries Commission was present at the meeting and answered questions concerning game and fish laws.

EUNICE WILDLIFE LEAGUE TO BE REACTIVATED

The Eunice Wildlife League is to be reactivated. All persons in the Eunice area interested in game and fish restoration are urged to join the club. Contact Coleman "Red" Fontenot for information.

"Come On, Pardner; Let's Go to Camp!"

By Ben Graves

Bonnet Carre Rod and Gun Club

Did you ever try this statement on an eight- to sixteen-year-old boy? The fellows in our club like the results. There's an indescribable sort of lift to a man's heart from the expression of unexcelled joy which usually appears on the youngster's face. That's one reason why we have several youth outings each summer.

The sections of the club each conduct one outing for boys each summer. Let's review a couple of the types of outings we enjoy most.

The Salt Water Fishing Section usually has its youth outing in late June. As many section members as wish may go and each member may take as many boys as he likes. Reservations are made ahead of time at a camp at Grand Isle, La. Included in these reservations are meals and boats. The group of members and boys, usually a total of 15 to 20, leave Norco at 5 P. M. on a Friday for the 100-mile drive down Bayou Lafourche to the Island. On arrival at 8 P. M., a huge dinner is ready. There are several kinds of sea food and everyone is encouraged to eat his fill. After the meal, the sleepy heads, or perhaps we should say "the wise ones" hit the hay. If there are boys who wish to flounder, and there usually are, lanterns are lighted and a couple of the members take them out for an hour or so. You see, this is the boys' trip and any request within reason is granted to some degree.

At 4 P. M. we roll out and sit down to a breakfast of ham and eggs and hot biscuits. Then down to the luggers or skiffs loaded down with rods, reels, lines, baits. It is wise to pick very calm weather for lugger trips to the oil rigs, because several years ago ground swells had half the boys flat on the deck before we had been fishing twenty minutes. I really believe the boys enjoy fishing from a skiff in the passes and over the shell reefs of Camanada Bay more than a trip out into the Gulf. At noon we return to camp for another fine sea food meal followed by a short nap. At 2 P. M. everyone dons his bathing trunks and goes down to the beach for a rough and tumble bout with the breakers. By 4 or 5 P. M. everyone is ready to pack up, ice the fish for the trip home and take a last look from the top of the highway bridge. The distant platforms are hazy and the inside bay waters quiet. One last listen to the murmur of the surf and we point the cars towards home. There'll surely be some sleepers before we reach Norco at dusk. Everyone gets an equal share of the fish when we reach home and the cost of the trip is then divided up. It usually amounts to about eight or nine dollars per person. A member pays all of his own expenses and half of each boy's that he took. The section treasury pays the other half of each boy's expenses and everyone is happy.

The Fresh Water Fishing Section and Duck Hunting Section usually have similar outings at the Duck Hunting Camp at La Branche, Louisiana, on the south shore of Lake Pontchartrain. The group usually consists of ten to twelve club members and twenty to twenty-five boys. We leave Norco at about 5 P. M. on Friday and go by car on the lower Bonnet Carre Spillway levee or by boat in the lower Spillway canal. Including the half mile walk along the I. C. R. R. track the distance is about 5 miles. Food and drinks are taken along and the members prepare supper by 8 P. M. After the meal the boys are taken frog and alligator hunting in boats in the big pond. After the boys are introduced to the mysteries of "shining," the restrictions on this type of hunting are carefully explained. Bedtime begins at 11 P. M.—usually lasts about an hour.

In the early hours of the next morning the aroma of fried bacon usually suffices to bring most of the fellows down to a hearty breakfast. If the fishing section is having the outing some of the men take boys to the big fresh water Spillway canals for fly fishing and casting, while others go in larger boats into the Lake to trawl (in the past) for shrimp and fish for redfish and speckles. When the youngsters are tired of fishing we go by boat to find a good sand bottom for swimming. When the hunting section conducts the outing we starting the morning with a 410 gauge skeet shoot using a hand trap and giving each boy three shots. Some of those youngsters hit all three birds. A "shoot off" is usually necessary to determine first, second and third prize winners. Following this the hunters conduct a 22 caliber rifle or pistol shoot. With rifles, regulation targets are used, however, small cans or bottles are used in the pistol match because nothing pleases a fellow more than to see his target broken or fallen. Prizes are given for the best rifle or pistol shots also. Great care in handling firearms is stressed and complete instructions are given on the use of the weapons before the boys begin to shoot. During the contest a man stands at each side of the contestant to see that he understands how and handles his gun correctly. At noon barbecue, hot and fresh, is the order of the day. Man! What appetites!!

After lunch and a brief rest, the boys pair up, take the two-man pirogues and go paddling on the shallow fresh water duck hunting pond. Careful watch is kept by the men for spills which are sure to take place. But the pond is shallow and the boys usually get out of their troubles without help. In the late afternoon the fellows begin to make ready for the short trip home. Costs are about $2 per person for the outing. Members pay their own expenses, the club pays the boys' expenses.

We believe that it is impossible to evaluate such youth outings. It is worth a life saved by teaching safety with guns and boats, skill in the woods and swamps and marshes or is it worth several lives? What is the value of those greatest of mental assets gained so readily in outdoor life? What is self-assurance and a cooperative spirit worth? What is the love of nature and the appreciation of its beauty worth? How much value does Dad place on the closer bonds of understanding, trust, admiration and friendship with his boy which stems from these outings together? We don't know the answers but we're sure these youth outings are worth all the time and money put into them and many times more.

Are there problems? Yes, but the major ones relate entirely to handling the boys and can be licked by selecting the right men for the job. These fellows should love the job they're doing. They should be safety conscious, good planners, firm but sympathetic and they should share the enthusiasm of the boys in the activities planned.

Try a youth outing in your club and you'll see that expression we're talking about when you say, "Come on, Pardner; let's go to camp."

What theyre Saying!

WINN PARISH *ENTERPRISE*, Winnfield, La. Local sportsmen took advantage of the warm weather and moonlight night to load up the hounds, fill up the thermos bottle with coffee, and hie away to the haunts of that sly old fellow, Bre'r Fox, Saturday night.

* * * *

BOB SCEARCE, *Morning Advocate*, Baton Rouge, La. Farms without game are not complete, and throughout the country a movement is on foot to overcome the deficiency that exists in so many sections.

In Louisiana today a year-round program designed to solve the problem of producing more upland game on the farms and plantations of the state has already been opened under the auspices of the education and publicity division of the state's Wild Life and Fisheries Commission.

Presentations of the talks and programs, it is understood, may be requested by schools throughout the state by contacting the education and publicity division of the Commission, at the Civil Courts Building in New Orleans.

* * * *

ARTHUR VAN PELT, New Orleans *Times-Picayune*—Members of the Lafitte Yacht Club of Lafitte, La., intend to revive the annual world's championship pirogue race, according to announcement Wednesday that a meeting has been called for Monday night, March 2, in Room 1, mezzanine floor, Roosevelt hotel, to discuss the idea and to make plans for the holding of the classic contest this summer.

ALEXANDRIA DAILY TOWN TALK, Alexandria, La.—We are unalterably opposed to government intervention in private enterprise.

We are also opposed to the breaking up of the Kisatchie National Forest as proposed by Congressman George S. Long. This is one case where the federal government has done a job which only a handful of private competitors could equal.

Receipts in the Kisatchie forest in 1952 were $620,660, largest in its history. The five parishes in which the forest is located received $155,165, or 25 per cent of the gross receipts, for use in their schools and on their roads.

The net increase in the value of timber in the forest in the last year is estimated at $2,675,201. This was achieved at a general operating cost of only $269,612. Here, indeed, is a paradox—a case where the government has done a commendable job without wasted manpower or money.

Kisatchie grew 25 million pine seedlings in its nursery near Bentley. The majority of these seedlings were grown for distribution by the Louisiana Forestry Commission to private land owners.

Cooperative fire and game management agreements with the state of Louisiana were carried out in 1952 on Kisatchie lands. The fire situation was serious during the fall of the year. But well-organized forces in cooperation with the Army, the Air Force, and private and state forestry crews were able to keep fire loss to a minimum.

We doubt that owners of 80-acre tracts can do the job of preserving or improving the valuable resource in the Kisatchie National Forest. Yet Dr. Long's bill would limit the acreage salable to one person to just 80 acres.

Moreover, we do not feel that our population is so compressed that we need to parcel out our national forests as homesteads. The forests as now managed can provide more adequately to support the families who would secure such homesteads.

Finally, we feel that Central Louisiana already owns its share of denuded forest lands. And in view of the work being done by the federal government, we feel that by keeping all of the Kisatchie National Forest in the hands of the U. S. Forest Service we have a better chance to hold down the denuded acreage.

There are good arguments for and against Dr. Long's bill. But it is our opinion that all persons who analyze the proposal objectively, keeping in mind the welfare of all of Central Louisiana and not of a handful of individuals, will agree that the arguments against the bill far outweigh those in favor of the measure.

* * * *

VAL FLANAGAN, New Orleans *States*—All fishermen venturing out on trips this spring must be properly equipped according to the new safety regulations issued by the Coast Guard.

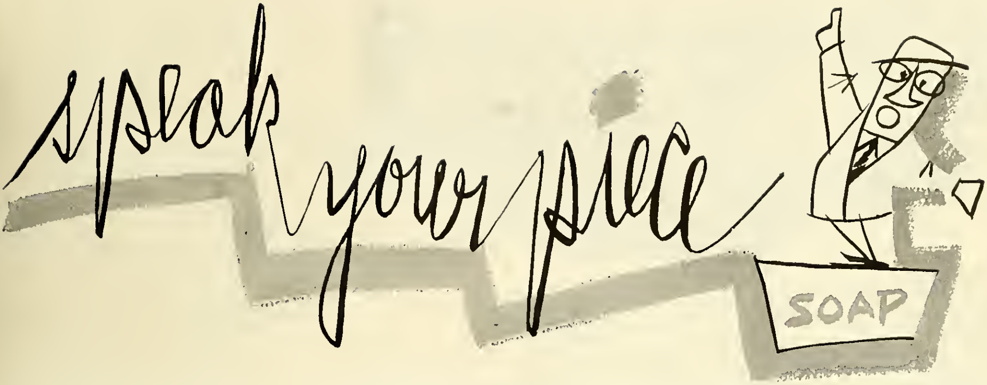
Regulations require each occupant of a motor boat to be equipped with a life preserver that has passed inspection. Any boat rental or speed boat operator caught without proper safety equipment will be severely dealt with.

* * * *

DELBERT OLIVER, Lafayette *Advertiser*—News of continued improvements in enforcement were making law-abiding sportsmen sit up and take notice. The new rangers have cracked down on all violations in every part of the state—not only on the little men who break the law when they fish without a license, take undersized fish, kill a few animals or birds out of season and similar violations which seem small in practice but are large when the volume over the state is measured. Many more damaging law breakers have been apprehended by the rangers in this area, and it is these flagrant violations which threaten the conservation program in Louisiana.

Recent arrests in the Southwest Louisiana area have included many marshland hunters who are killing and trapping ducks in large numbers and selling them—out of season. Millions of ducks and geese which remain in Louisiana each year are slaughtered by these men, leaving few birds for the hunters who have reconciled themselves to the fact that there must be some reason for the federal government setting a daily limit of four on migratory waterfowl.

Similarly, arrests have been made in which men have been charged with netting thousands of pounds of game fish and selling them on the open market. Such practices have all but ruined some of the area's best fishing grounds and left the weekend game fishermen who stick to the law with nothing but the leftovers.



Reciprocal License?

Lake Arthur, La.

Dear Editor,

Why should we not ask for reciprocity from the states of Arkansas, Texas and Mississippi on our five dollar trip license for hunting four consecutive days? If this is refused I think we should discontinue granting this courtesy to them.

Will appreciate your views on this subject.

Thanks,
Earl A. Doland

How many more of you readers follow this "sauce for the goose" policy? —C.T.G.

* * * *

Young Oldster

Alexandria, La.

Dear Sir:

I am over 60 years of age—way over, but I still can catch fish. How do I get this free permit to use instead of a fishing license?

M. B. Klein

SHERIFF OFFICE
AGE 60
"Been here two years today."

If you're over sixty and have lived in Louisiana for the past two years, you can get a free fishing and hunting permit from any sheriff's office or from our office here in New Orleans. —C.H.G.

* * * *

Posting Problem

Olla, La.

Sir:

There is a question about the new Commission, in my mind, as well as lots others.

What is going to be done about the few that is hoarding the best deer hunting territory by fencing, and posting it? Will this restocking program fall to them when the hunting is opened?

Sincerely yours,
V. B. Whiddon

* * * *

..I do not know what, if anything, can be done with a land owner fencing and posting his own porperty. I believe that it is his right granted to him not only under the constitution of the United States but under the Louisiana constitution also.

You apparently are under the mistaken impression that this department stocks deer in private areas. This is not so. Deer are stocked only in areas that are protected for a period of not less than five years but when those areas are opened they will be opened for the benefit of the public. It is the basic principle of this department that all restocking of game and fish is done for the benefit of the public and not for individuals.

Very truly yours,
James Brown, Chief
Fish and Game Division

* * * *

Squirrel Talk!

Hornbeck, La.

Dear Sirs:

I notice in your publication of the January issue that you ask any of us that wanted to say or ask any questions concerning the out doors, well here is my complaint. I was borned and raised in Sabine Parish and lived the biggest part of it in the out doors working, hunting, and fishing, in the woods and this last fall was my first year and I'm almost 40 year of age that I saw the acorn mass so low that squirrels or any other animal that eats mass couldn't live through the winter and in my part of the territory it is because the Reforestery has deaden and poisoned all the hardwood trees, so they cannot live on pine mass so all I can see they get out of killing the hardwood and reforestery is that they get it tax free and leave us that like the out doors to pay the high taxes an dtherefore we cannot help preserve the wildlife like we want too and them destroying it still they expect us whenever there's a fire to help protect theirs. So please give the matter close attention and see if I'm not justified in making a complaint as I have been a member of the wildlife from the first. In fact, I was 5th in my neighborhood to join.

I am sincerely yours,
Atlas Brown

You know, when I was a boy being raised in LaSalle Parish, I remember going hunting at every opportunity with my granddad. I remember we walked through the vast stretches of virgin pine woodlands many miles earl yin the morning on the way to the bottomlands of Chickasaw Creek where we did our squirrel hunting. I learned from granddad that it wasn't any use trying to hunt squirrels among the virgin pines because there weren't enough of them to worry about.

"If you want to hunt squirrel," Granddad would say, "go where the squirrels are. They're in the bottomlands where the food is."

Today, the virgin pine trees are no longer with use, of course. During the time they were cut many years ago and today, hardwood trees have sprung up here and there in the pineland country. Naturally, with the hardwoods and the resulting mast, squirrels have come to the pinelands too, but in pitifull ysmall quantity. The real food is still located in the bottomland hardwood regions, and that's where you'll find most of your squirrels, right?

Now, the landowners who are deadening cull hardwoods on their pinelands are attempting to recreate the pure pine stands which existed before the coming of the axe. This is in conformance with good timber management practice and, at the same time, good land use practice; that is, grow pine trees on those lands which are suited for pine and grow hardwoods. Management practice of the professional forester is designed for doing the most for the welfare of the people.

..Deadening the comparatively few hardwoods in the pine region is most definitely not decreasing the squirrel population; rather it is just moving the squirrel population to the hardwood area where they

(Concluded on next page)

WINCHESTER—THE GUN THAT WON THE WEST, by Harold F. Williamson. Published by Combat Forces Press, 1529 Eighteenth St. NW, Washington 6, D. C. 8½" x 11", 494 pages. Price: $10.00.

If it's about the Winchester Repeating Arms Co., or any of the products made by it, or for it, you will most likely find it in this volume. It chronicles the history of a firearms manufacturing company which has almost become an American institution. Not only does it offer photographs of all of the firearms of Winchester, but of many of the competing lines which Winchester absorbed. And did you know that Winchester has at various times offered for sale knives, tools, radio batteries, flashlights, fishing tackle, ice skates, roller skates, football tackle, baseball bats, and paint and paint brushes? Neither did I. And those items are only a sample.

WINCHESTER is attractively bound and well written, but is not recommended for the average hunter. For the gun-nut, however, it's a must. And, incidentally, if you aren't a gun-bug you will be after reading a few books like this one. C.H.G.

THE BOOK OF FISHES, edited by John Oliver La Gorce. Published by National Geographic Society, Washington 6, D. C. 7½" x 10¼", 340 pages. Price: $6.50.

Positively great—a real bell ringer. This is the enlarged and revised 1952 edition. Editor La Gorce, Vice President of the National Geographic Society, in this 340 page volume loaded with appeal, presents the "better known food and game fishes and the aquatic life of the coastal and inland waters of the United States." It depicts 236 species in color, with biographies, along with 67 other color photographs and 170 black and white photographs. The magnificent color reproductions are alone worth the price, and only a non-profit organization could make such a book available at such low cost.

THE BOOK OF FISHES would be a useful addition to any home library, providing a finger-tip handy reference work of aquatic lore. A few of the interesting chapters are Our Heritage of Fresh Waters, Fishing in Pacific Coast Streams, Angling in the United States, The Lordly Tarpon—Angler's Delight, and Men Who Go Down to the Sea—in Aqualungs. C.H.G.

FISHING BEHIND THE EIGHT BALL, by Harlan Major, 254 pages, numerous black and white photographs and illustrations. The Telegraph Press, Harrisburg, Penn., 1952, $5.00.

Harlan Major sets the tempo of this entertaining volume in his dedication, which reads, "To Claire—who never objects to any of my travels—if she goes along." From that point the reader is taken with the author on his search for the fisherman's pot of gold. In his travels through many of the waters of the world, Major accepted the task of taking fish in a sporting manner as a challenge not to be denied. From pioneering the use of "three-six" tackle on sailfish in Florida waters, through shipwrecks off the California coast, to the strange fish of British Guiana—the author lets you experience his fishing thrills and problems.

While BEHIND THE EIGHT BALL will interest most fishermen, it will be especially well received by the salt water angler, since most of it deals with the off-shore species. C.H.G.

THE RACCOON, by Leon F. Whitney and Acil B. Underwood. Published by Practical Science Publishing Company, Orange, Conn., 8¼" x 5¾", 177 pages. Price: $3.75.

A very timely and worthwhile treatise on the comic of our out-of-doors, especially in view of all the notoriety received by brother 'coon here in Louisiana recently. Whitney is a biologist and veterinarian, and Underwood has raised raccoons and coonhounds for years. They bring the reader up short at the very beginning by emphasizing that, contrary to most beliefs, the raccoon does NOT wash everything he eats. THE RACCOON is a rather comprehensive coverage of the habits and life history of this animal, and in addition carries information on the raising of raccoons, their commercial uses, the tame raccoon, and the 'coon as a laboratory animal. Bibliography is good. C.H.G.

THE COON HUNTER'S HANDBOOK, by Leon F. Whitney and Acil B. Underwood. Published by Henry Holt and Company, 383 Madison Ave., New York. 5¼" x 7½", 210 pages. Price: $2.95.

This book is to the coon hunter what THE RACCOON is to the student of the coon itself. The two books do not contain enough duplication to keep the coon man from wanting both. The HANDBOOK contains such chapters as What Is a Coon Hunt?, Qualifications of a Coon Dog, Hound Breeds, How to Obtain a Coon Dog, Training the Coon Dog, Coon-Dog Field Trials, and How to Conduct a Field Trial. No avid coon hunter will agree with all that Whitney and Underwood offer in this little book, but they will all enjoy it.

C.H.G.

SPEAK YOUR PIECE

(Continued from Page 23)

belong and where they fare better. Incidentally, it makes hunting a little more convenient, also, because it saves the hunter from traipsing through miles of pine country in search of a few squirrels.

We had the worst drouth in Louisiana last year than any time since 1924. Not only was mast decreased because of this drouth but growth on timber owned by landowners was decreased, too. Things were bad all over!

Back in 1924, I remember that granddad told me it wasn't any use in even going out hunting during that drouth. He knew what it did to the game.

On my friend's statement about taxes, I'm afraid his remarks leave me quite as confused and befuttled as do the tax instructions which arrive from the Great White Father in Washington each year.

Yours very truly,
James E. Mixon
State Forester

* * * *

Remove My Name

Oak Ridge, Tenn.

Dear Sir:

Thank you for sending me the CONSERVATIONIST. Due to increased family responsibilities, I find I am not keeping up with it as I would like to. Therefore, would you remove my name from your mailing list?

Mrs. Sigfred Peterson

That atomic energy, no doubt. Will do, Mrs. Peterson. —C.H.G.

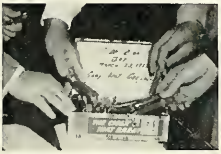
SALT WATER FISHERMEN NEED LICENSE

A fishing license is required of any fisherman (except residents over 60 and under 16) who fishes with a REEL or who fishes with ARTIFICIAL LURE. This applies for both salt water fishing and fresh water fishing. Residents over 60, who have lived in Louisiana for last two years, may get free permit from any sheriff's office or from Commission office. Residents under 16 not required to have either license or permit. Armed service personnel not required to have license. All non-residents must have fishing license regardless of manner of fishing.

CRAWFISHING REQUIRES NO LICENSE

No license is required to take crawfish unless you sell them commercially. If you are catching them for sale you must have the commercial fisherman's license ($5.00). No closed season or limit on crawfish.

Bayou Browsing



FLASH! Overdue feature finally checked in at 10:30 p. m., March 23—7 lbs. 2 oz. Byline author says HE looks like co-author but will probably outgrow it. That makes two of a kind backed by a queen, and I needed another boat paddler. Gary Kent Gresham—not bad, hey? Have another ceegar.

* * * *

Notice anything different about this issue—and the two before this one, for that matter? We hope you found them just a bit easier to read. If you'll recollect you'll remember that you didn't have to fumble through the mag for a "continued on page so-and-so", except for one little jog in the January copy. Surveys indicate that an article loses a good part of its readers when it's "continued", and from my own experience I'm inclined to agree with those surveys. This straight-through format requires a bit more planning, but in the interest of presenting a more appealing magazine we plan to stick with it insofar as practical.

* * * *

Yep, that's right! We did promise to outline plans for keeping official records on big fish, etc., in this issue, but that'll have to come a little later. We want to use the same forms for entering fish as those used by FIELD & STREAM in their annual contest, and there yet remains a bit of dickering with their powers-that-be.

* * * *

Several times in the past couple of weeks we've heard remarks to the effect that the Wild Life and Fisheries Commission must be rollin' in that filthy green stuff called money, what with all the fines being assessed violators of the game code. 'Tain't so, peoples, 'tain't so! The truth of the matter is that all fines collected for game law violations are turned over to the school boards in the parishes where the violations occurred. How this got started we don't know. Whether it's right or not is beyond the scope of this course, as my prof used to say when a particularly bright query stumped him. Nevertheless, the fine money definitely does *not* end up in our coffers. Nuf sed about that, but not enough about our enforcement program. Colonel Smith and his rangers are doing a job—they are giving you the best game law enforcement you have ever had. Sure, some mistakes are being made. In the new Commission program, where policies have been changed virtually overnight, it was a foregone conclusion that some errors in judgment and in selection would be made. Those rough spots will be ironed out, but it's going to take time. The mistakes being made are the result of an ACTIVE AND IMPARTIAL enforcement program, something every sportsman has been demanding. The record speaks for itself—1232 convictions from December 11 until March 23. Some of the people caught in the dragnet were unintentional violators, and that is to be regretted. Nevertheless, they were violators—grown lax from years of lackadaisical enforcement. We promise to do our utmost to make available to you any and all information pretaining to game and fish regulations. How about meeting us halfway by doing your best to find out all the laws governing your particular brand of sport. Let's get the job done.

* * * *

You scattergunners who have been plagued by short seasons and low bag limits have a treat in store. If you like tricky wing shooting par excellence, game that comes readily to a call, and the opportunity to burn up a couple of boxes of hulls each time you go out, don't miss "The Sweetest Shootin' This Side of Heaven". Coming up next month.

C. H. G.

BACK COVER: 'French ducks' rise from the marsh on restless wings to follow the age-old urge that will take them to the breeding grounds of the Dakotas, Manitoba, Saskatchewan, and points north.

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